Datasheet for ABIN3120492

Aquaporin 8 Protein (AQP8) (AA 1-261) (Strep Tag)

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Overview

Quantity:	1 mg
Target:	Aquaporin 8 (AQP8)
Protein Characteristics:	AA 1-261
Origin:	Mouse
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This Aquaporin 8 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence:	MSGEQTPMCS MDLPEVKVKT SMAGRCRVFW YEQYVQPCIV ELVGSALFIF IGCLSVIENS PNTGLLQPAL AHGLALGLII ATLGNISGGH FNPAVSLAVT VIGGLKTMLL IPYWISQLFG GLIGAALAKV VSPEERFWNA SGAAFAIVQE QEQVAEALGI EIILTMLLVL AVCMGAVNEK TMGPLAPFSI GFSVIVDILA GGSISGACMN PARAFGPAVM AGYWDFHWIY WLGPLLAGLF VGLLIRLLIG DEKTRLILKS R **Sequence without tag. The proposed Strep-Tag is based on experience s with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.**
Characteristics:	Key Benefits: • Made in Germany - from design to production - by highly experienced protein experts. • Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification.

- These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a **made-to-order protein** and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.
The big advantage of ordering our **made-to-order proteins** in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.
- During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

Concentration:

- The concentration of our recombinant proteins is measured using the absorbance at 280nm.
- The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.
- We use the Expasy's protparam tool to determine the absorption coefficient of each protein.

Purification:	Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®): 1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag capture material. Eluate fractions are analyzed by SDS-PAGE. 2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.
Purity:	≥ 80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Endotoxin Level:	Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)

Target Details

Target:	Aquaporin 8 (AQP8)
Alternative Name:	Aqp8 (AQP8 Products)
Background:	Aquaporin-8 (AQP-8),FUNCTION: Channel that allows the facilitated permeation of water and uncharged molecules, such as hydrogen peroxide and the neutral form of ammonia (NH3), through cellular membranes such as plasma membrane, inner mitochondrial membrane and endoplasmic reticulum membrane of several tissues (PubMed:27256569, PubMed:9388476, PubMed:15647389, PubMed:15948717, PubMed:16624991, PubMed:21117174). The transport of ammonia neutral form induces a parallel transport of proton, at alkaline pH when the concentration of ammonia is high (By similarity). However, it is unclear whether the transport of proton takes place via the aquaporin or via an endogenous pathway (By similarity). Also, may transport ammonia analogs such as formamide and methylamine, a transport favourited at basic pH due to the increase of unprotonated (neutral) form, which is expected to favor diffusion (By similarity). In vitro, may be also permeable to urea but not to glycerol (PubMed:9388476). Does not transport urea or glycerol (By similarity). The water transport mechanism is mercury- and copper-sensitive and passive in response to osmotic driving forces (PubMed:9388476). At the canicular plasma membrane, mediates the osmotic transport of water toward the bile canaliculus and facilitates the cAMP-induced bile canalicular water secretion, a process involved in bile formation (By similarity). In addition, mediates the hydrogen peroxide release from hepatocyte mitochondria that modulates the SREBF2-mediated cholesterol synthesis and facilitates the mitochondrial ammonia uptake which is metabolized into urea, mainly under glucagon stimulation (By similarity). In B cells, transports the CYBB-generated hydrogen peroxide from the external leaflet of the plasma membrane to the cytosol to promote B cell activation and differentiation for signal amplification (PubMed:27256569). In the small intestine and colon system, mediates water transport through mitochondria and apical membrane of epithelial cells (By similarity). May play an important role in the adaptive response of proximal tubule cells to acidosis possibly facilitating mitochondrial ammonia transport (By similarity). {ECO:0000250|UniProtKB:O94778, ECO:0000250|UniProtKB:P56405, ECO:0000269|PubMed:15647389, ECO:0000269|PubMed:15948717, ECO:0000269|PubMed:16624991, ECO:0000269|PubMed:21117174, ECO:0000269|PubMed:27256569, ECO:0000269|PubMed:9388476}.
Molecular Weight:	27.8 kDa
UniProt:	P56404

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Comment:	ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications. During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. If you have a special request, please contact us.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)